
State of the art of expert searching: results of a Medical Library Association survey

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Objectives: Medical Library Association (MLA) members were surveyed to gather background about the current state of expert searching in institutions. The survey results were intended to guide the recommendations of the Task Force on Expert Searching for promoting the importance of expert searching and implementing those recommendations.

Methods: MLA members were surveyed, and data obtained from the survey were compiled and analyzed to answer three general questions: what is the perceived value of searching skills to the institution, how do health sciences librarians maintain and improve their searching skills, and how are searching services promoted and/or mandated in the institution.

Results: There were 256 responses to the survey. Over 95% of the respondents saw their expert-searching skills were of value to their institutions, primarily through performing mediated searches and search consultations. Over 83% of the respondents believed that their searching skills had improved over the past 10 years. Most indicated that continued training was very important in maintaining and improving their skills. Respondents promoted searching services most frequently through orientations, brochures, and the libraries' Web pages. No respondent's institution mandated expert searching. Less than 2% of respondents' institutions had best practice guidelines related to expert searching, and only about 8% had guidelines or policies that identified situations where expert searching was recommended.

Conclusions: The survey supports the belief that health sciences librarians still play a valuable role in searching, particularly in answering questions about treatment options and in providing education. It also highlights the need for more expert searching courses. There has been minimal discussion about the perceived need for expert-searching guidelines in the institutions represented by survey respondents.

INTRODUCTION

Literature about online literature searching has covered a variety of topics including the reference interview, database selection and analysis, search strategy construction, searching process, and ways to improve searcher knowledge and skills. Papers that address the "expertness" of librarian intermediaries are more difficult to find. Twenty years ago, Bellardo reviewed the "opinionative literature and also the research studies" on the skills needed for online searching and concluded that many of the claims made by librarians about what it took to be a good online searcher were overstated and not supported by research. Online searching was still the domain of librarians in the mid-1980s, and Bellardo went on to say that more and better research on the subject was needed [1]. The advent of the Internet and the development and promotion of user-friendly searching interfaces moved online searching from the exclusive domain of librarians to the public arena. Academic medical center libraries in the United States began to teach clinicians how to do their own online searches, and, in consequence, the volume of requests for intermediated searches began to decline.

Since the late 1980s, a number of studies have been done to compare the search results of librarians to those of end users. The majority have supported the premise that experienced librarian searchers provided higher quality results than end users despite the continued promotion of end-user searching services by database suppliers and librarians. For example, a study conducted at McMaster University to determine the quality of MEDLINE searches done by physicians, physician trainees, and expert searchers (clinicians and librarians) found that librarians were significantly better searchers than novices for both recall (number of relevant citations retrieved from an individual search divided by the total number of relevant citations from all searches on the same topic) and precision (proportion of relevant citations retrieved in each search). In addition, librarians had equivalent recall to and better precision than experienced end users [2].

A few papers addressed end users' perceptions of mediated searching services. A Mayo Clinic study, conducted to determine physician researchers' interest and ability in using a self-service retrieval tool, concluded that, while 25% of the research investigators would use the retrieval tool, the majority were satisfied with and preferred the mediated service offered at the Mayo Clinic because of the convenience, retrieval specialists' knowledge, and researchers' lack of time to perform the search themselves [3]. Other authors lamented the role that librarians have played in overselling end-user searching to the detriment of their own profession and, at the same time, promoting inefficient searches conducted by end users [4].

General discussions about the decline in the role of medical librarians as search intermediaries came to a head in 2001 with the report that the death of a research subject at Johns Hopkins University could have

been prevented if the research investigator had conducted a more thorough search of the relevant literature pertaining to the study [5]. The Johns Hopkins tragedy served as a wake-up call to medical librarians and led the Board of Directors of the Medical Library Association (MLA) to recommend the appointment of the Task Force on Expert Searching in the fall of 2001.

The Task Force on Expert Searching was asked to recommend actions that would promote the importance of expert searching in health care and biomedical research and to develop and implement a plan for achieving the actions. To gather background about the current state of expert searching and the needs of MLA members, the task force developed a survey to assess the current expert-searching roles that health sciences librarians play in their institutions and the ways librarians promote their searching services. The task force planned to use the survey results as a basis for developing expert-searching guidelines for the profession.

METHODS

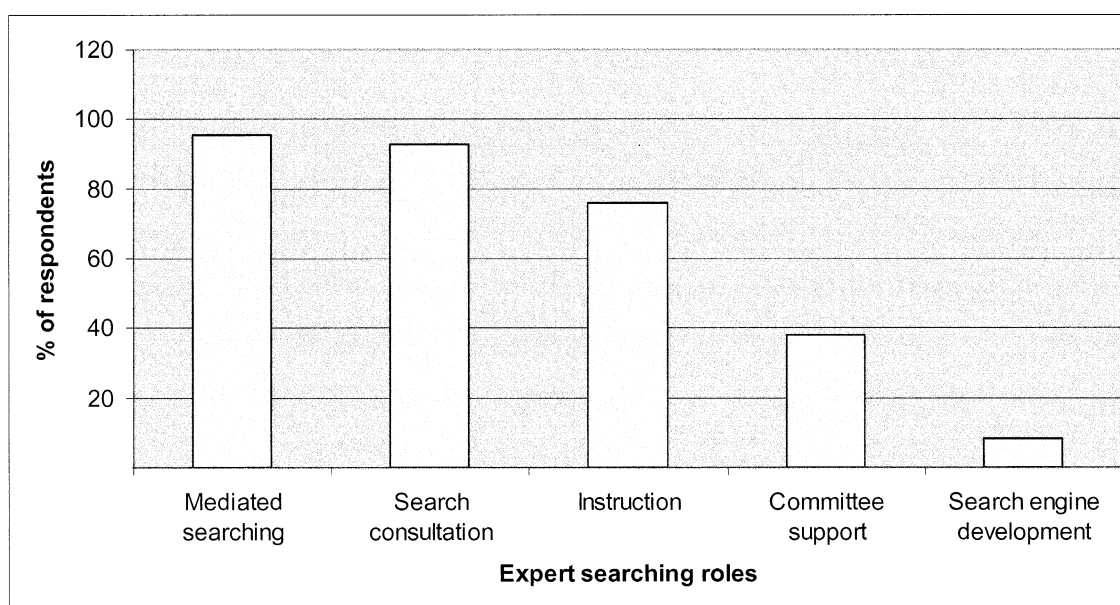
A survey was developed by task force members to help assess the current roles of health sciences librarians in expert searching in their institutions and contained questions about three general areas: searching expertise, maintenance of searching skills, and promotion of searching services in the respondents' institutions. The survey was composed of twelve questions that included multiple choice questions, where the respondents could check more than one choice, as well as opportunities for respondents to provide comments or "other" responses (Appendix). It was made available via MLANET, MLA's Website, from March 8, 2002, through April 1, 2002, and promoted through MLA-FOCUS, an email distribution list sent to all MLA members. In all, 256 people responded to the survey. Staff compiled the survey results, and a brief report on the results was published in the January 2003 issue of *MLA News* [6].

RESULTS AND DISCUSSION

Searching expertise

How has the respondents' expertise as a searcher been of value to their institutions? This question received 796 responses indicating that respondents saw multiple ways that their searching expertise had been of value to their institutions. Three of the five options offered in this question were selected by large majorities of the 256 respondents (Figure 1). Of the total respondents, 95.3% reported mediated searches as requested by users were valuable; 92.9% reported value in consulting for individuals performing their own searches; and 76.1% selected instruction for classes in end-user searching. Of the remaining two options, 38.2% selected support of committee work, and 8.2% selected consultation on development of database search engines. Of the 98 respondents who indicated support for institutional committees as a valuable use

Figure 1
Value of searching expertise to institution



of their searching expertise, they most frequently cited committees related to education, quality improvement, and practice guidelines.

How has the respondents' role as expert searchers been valuable to a patient, a health care provider, or their institutions? The examples offered by respondents fell roughly into four categories: patient treatment decisions, educational activities, administrative support, and research support. More than 50% of the 85 respondents reported that searching skills were used to discover best treatment options for patients at the request of a health care professional. In more than 25% of the responses, librarians said they provided treatment information at the request of a patient or family member. Forty percent of searching requests fulfilled either the educational needs of clinicians, students and residents, or the patient and family. A little over 20% of the responses mentioned support for institutional administrative concerns, such as competitive intelligence, legal issues, practice guidelines development, and root cause analysis for sentinel events. Another 12% cited examples in which expert searching supported research activities, including grant proposals, research protocol development, and systematic reviews.

What percentage of time did the respondents spend doing any type of reference work? For purposes of the survey, reference work was defined as recommending, interpreting, or providing instruction in the use of one or more information sources, such as the library collection, online catalog, or automated data systems. The 254 respondents to this question responded as follows: 20.5% spent less than 25% of their

time doing reference work, 37% spent 25% to 50%, 29.5% spent 50% to 75%, and 13% spent 75% to 100%. Of the time spent performing searches and teaching others to search, 54% still spent more than half of their time searching as opposed to teaching (Figure 2).

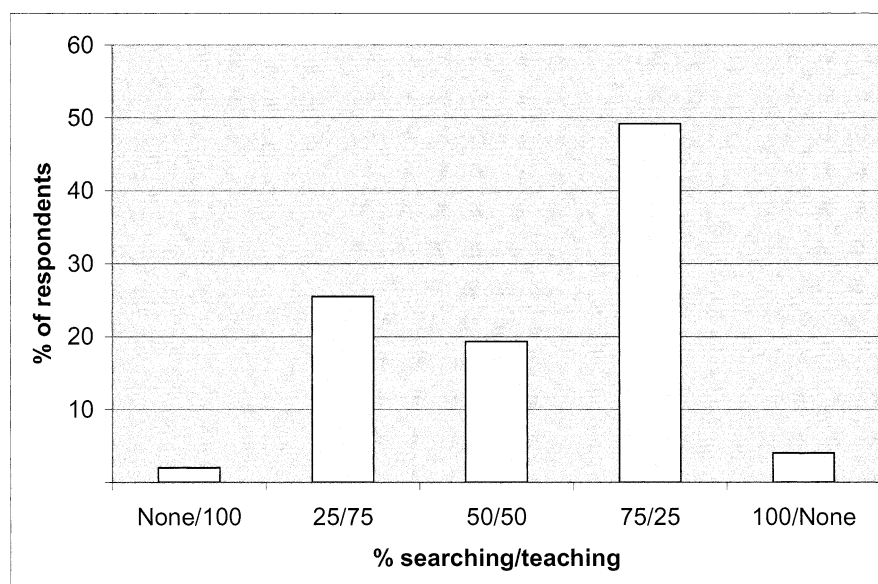
Maintenance of searching skills

How have respondents' searching skills changed over the past ten years? The overwhelming majority of respondents (83.1%) reported that their searching skills had improved over the past ten years, while 10.2% said that their skills had stayed the same and 6.7% believed that their skills had deteriorated. Of the 211 people who believed that their searching skills had improved, 102 gave reasons why. Reasons given for improvement included: experience (62.7%), training (59.8%), networking with colleagues (16.7%), improvement in technology (11.8%), and/or reading the literature (12.7%). Respondents gave multiple reasons in about half of the responses.

When given specific choices about how they maintained or improved their searching skills, more than 75% of the respondents selected formal continuing education and/or self-study methods, while 25% selected staff meetings or "other" methods, especially practice and consulting with colleagues (Figure 3).

In response to a question about preferred venues for continuing education courses, 39% of respondents wanted courses offered at MLA annual meetings, 69% at chapter meetings, 70% via the Web, and 14% "other," including classes sponsored locally and classes offered by the National Network of Libraries of Medicine (Figure 4).

Figure 2
Percentage of time spent searching versus teaching



Promotion of searching services

Did respondents' libraries charge fees for librarian-mediated searches? The vast majority (64%) of respondents worked in libraries that did not charge fees for librarian-mediated searches. For the 91 respondents that did charge for searches, 34 indicated that they charged for all mediated searches; 35 charged for searches requested by nonaffiliated requestors such as people outside the health system, corporations, or consumers; and 9 charged only for "extensive searches."

Another 10 respondents only charged pass-through fees such as those fees incurred during patent searches. More than half the respondents who charged for "all" mediated searches excepted special cases, including assisted searches (when the requestor was present); searches for patients, consumers, or students; and "quick" searches.

How did respondents promote searching services? The top six ways that respondents promoted their searching services were through: (1) new staff or new

Figure 3
Methods used to maintain or improve searching skills

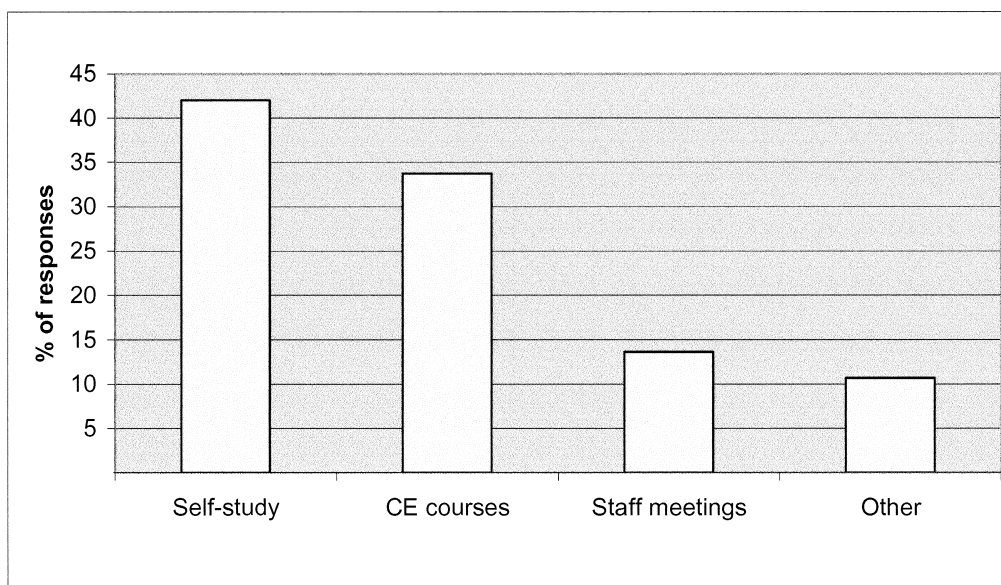
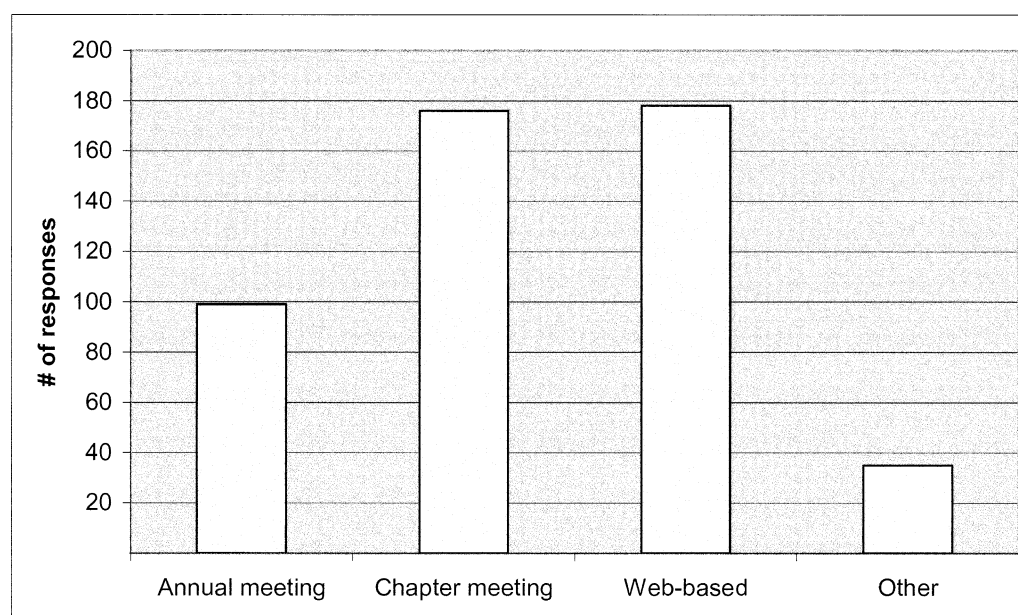


Figure 4
Preferred venue for continuing education courses



student orientations; (2) brochures, fact sheets, or bookmarks; (3) Web pages; (4) participation in department or division meetings; (5) newsletters; and (6) email messages. Other methods were mentioned less than 20% of the time (Figure 5).

How widespread are expert-searching guidelines in respondents' institutions? Guidelines were not very widespread at this time, according to the survey. Less than 2% (4 respondents) reported that their institutions had best practice guidelines related to expert searching, and only about 8% (18 respondents) had guidelines or policies that identified situations where expert searching was recommended.

Thus far, not much evidence has shown that "incidents" have engendered discussion about the need for expert-searching guidelines. Of the twenty-four responses to the question about incidents at an individual's institution, only five people reported that they were aware of a specific incident that led to discussion about expert searching. Other positive respondents to the question stated that their institutions had only discussed this need in regard to national events such as the Johns Hopkins tragedy or as a result of general interest in the subject.

Use of the survey results in developing and implementing task force actions

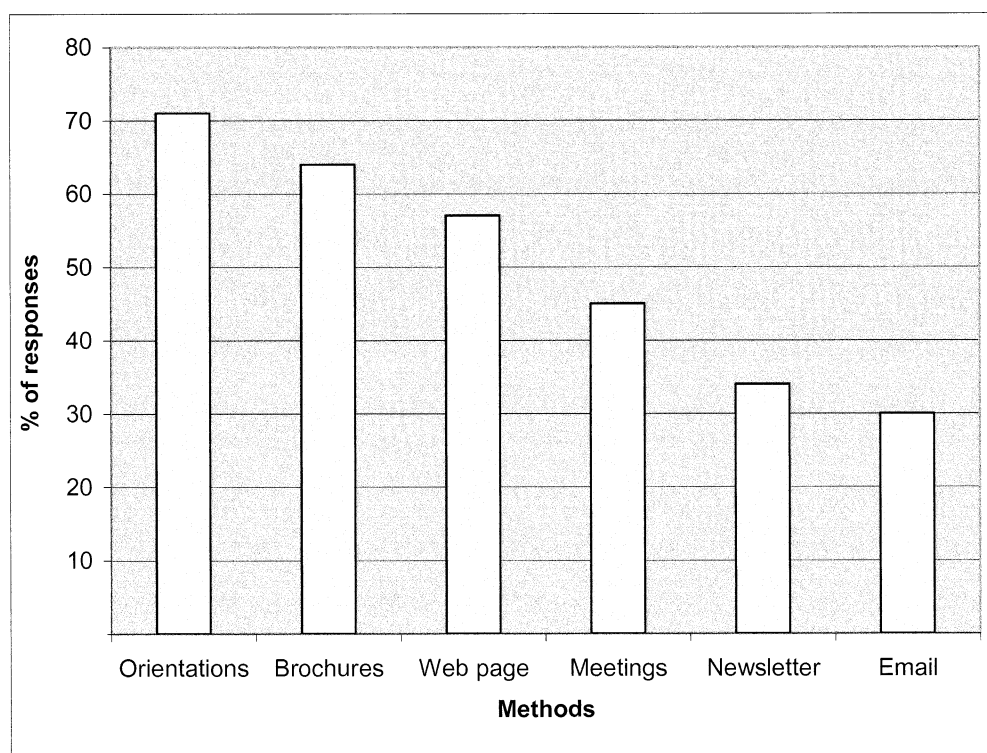
The Task Force on Expert Searching undertook several initiatives based on the results of the survey. First, the task force developed the MLA policy statement, *The Role of Expert Searching in Health Sciences Libraries* <http://www.mlanet.org/resources/expert_search/policy_expert_search.html> to define expert searching and a

number of high-impact areas that would benefit from the use of evidence- or knowledge-based information retrieved through the expert searching process. This policy was in response to the seeming lack of best practice guidelines for expert searching in the health sciences noted in the results of the survey. Also, the task force initiated a quarterly column in the *MLA News* on expert searching that first appeared in the October 2002 issue [7] and an expert searching Website <http://www.mlanet.org/resources/expert_search/> to promote the sharing of information about expert searching.

In the area of lifelong learning, selected courses have been given an "expert search" designation since MLA's 2002 annual meeting to help attendees identify courses to improve their searching skills. At the 2004 annual meeting, a specific program was developed on the librarian's role in searching for and filtering information. The Task Force on Expert Searching was one of several MLA units to sponsor this event. In response to the expressed desire to have expert searching courses also available at chapter meetings and via the Web, task force members worked with MLA's professional development department to better publicize advanced-searching courses available for use by chapter CE planners, and at least one Web-based searching course was added to the MLA Educational Clearinghouse. In March 2004, task force members appeared on MLA's teleconference, "Roles and Essential Skills for the Expert Searcher," which was also available as a Webcast.

Finally, task force members and staff of the National Library of Medicine (NLM) have been working together on a pilot program to reestablish publication of examples of "gold standard" searches through NLM's *Technical Bulletin*. At the recommendation of the task force, MLA's

Figure 5
Promotion of searching services



Public Services Section has launched an email discussion list about expert searching <http://pss.mlanet.org/mailman/listinfo/expertsearching_pss.mlanet.org> as another way for members to share search strategies and discuss issues of interest to expert searchers.

CONCLUSIONS

The survey supports the belief that health sciences librarians are still playing a valuable role in searching, particularly in answering questions about treatment options for patients and in providing education for health care providers, patients, and their families. Over 50% of the respondents spend the majority of their time searching as opposed to teaching end users to search. Respondents promote their searching services in a variety of ways including new staff or new student orientations; brochures, fact sheets, or bookmarks; Web pages; and participation in department or division meetings. Only 36% of respondents charge fees for librarian-mediated searching.

The survey also highlights the need for more expert searching courses at chapter meetings or via the Web as well as at MLA's annual meetings. Although the survey indicates there has been minimal discussion about the perceived need for expert-searching guidelines in the institutions represented by the respondents, the task force developed an MLA policy statement concerning expert searching to be used by mem-

bers as an advocacy tool and in developing institutional guidelines in this area.

Recent emphasis on evidence-based practice by the Institute of Medicine has created some renewed interest in the knowledgebase and skill set required for expert literature searching, and, in many institutions, librarians are being recruited to serve as expert search consultants on clinical and research teams that promote the use of knowledge-based evidence to support planning and decision making. MLA continues to support efforts on behalf of health sciences librarians to reclaim this specialized area of expertise as a key role for the profession. MLA has recently funded an "information specialist in context" (ISIC) study at Vanderbilt University to identify the knowledge and skills needed by individuals who function as information consultants in specific work environments, such as employees of clinical departments or members of research project teams in the biological sciences. The study will also identify the factors that might contribute to promoting the ISIC role as a financially viable option in today's fiscal environment.

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APPENDIX A

Expert searching survey

Searching expertise

A.1. How has your expertise as a searcher been of value to your institution? (Please check all that apply):

- ☐ Consultant for individuals performing their own searches
- ☐ Consultant on development of database search engines
- ☐ Instructor for classes in end-user searching
- ☐ Mediated searching as requested by users
- ☐ Serving on or directly supporting the work of any of the following committees:
 - ☐ Curriculum committee
 - ☐ Institutional review board
 - ☐ Patient safety committee
 - ☐ Practice guidelines committee
 - ☐ Product development committee
 - ☐ Quality improvement committee
 - ☐ Other relevant committees, task force, or project assignments (Please list):

A.2. Do you have any examples of how your role as an expert searcher has been valuable to a patient, health care provider, or your institution? If yes, please share your examples below or provide contact information so we may follow up with you.

A.3. What percentage of your time do you spend doing any type of reference work? (Reference work is defined as recommending, interpreting, or providing instruction in the use of one or more information sources, such as the library collection, online catalog, or automated data systems):

- ☐ 75 to 100%
- ☐ 50 to 75%
- ☐ 25 to 50%
- ☐ Under 25%
- ☐ No answer

A.4. Of your time spent performing searches and

teaching others to search, about what proportion of time do you spend for each?

- ☐ None searching and 100% teaching
- ☐ 25% searching and 75% teaching
- ☐ 50% searching and 50% teaching
- ☐ 75% searching and 25% teaching
- ☐ 100% searching and none teaching
- ☐ No answer

Maintenance of searching skills

B.1. Over the past ten years, your own searching skills have:

- ☐ Stayed the same
- ☐ Improved
- ☐ Deteriorated
- ☐ Not applicable

Because (Please list reasons):

B.2. How do you maintain or improve your searching skills? (Please check all that apply):

- ☐ Formal continuing education (CE) courses
- ☐ Self-study (technical bulletins, etc.)
- ☐ Staff meetings
- ☐ Other (Please describe):
- ☐ Not applicable

B.3. Please indicate your interest in expert searching continuing education courses offered at: (Please check all that apply)

- ☐ MLA annual meetings
- ☐ MLA chapter meetings
- ☐ Web-based courses
- ☐ Other (Please describe):

Promotion of searching services

C.1. Does your library charge fees for librarian-mediated searching?

- ☐ Yes
- ☐ No (please skip to question C.2.)

Under what circumstances do you charge fees?

C.2. How do you promote your searching services in your institution? (Please check any that apply):

- ☐ Brochures, fact sheets, or bookmarks
- ☐ Email messages
- ☐ New staff or new student orientations
- ☐ Newsletter
- ☐ Participation in department or division meetings
- ☐ Signage
- ☐ Special events
- ☐ Targeted communications to unserved customers
- ☐ Web page
- ☐ Other (Please describe):

C.3. Does your library have any best practice guidelines (not specific to a vendor or database) related to expert searching?

- ☐ Yes
- ☐ No

C.4. Does your institution have guidelines or policies that identify situations where expert searching is recommended?

_____ Yes

_____ No

C.5. Have there been any incidents in your institution that have engendered discussion about the need for expert searching (e.g., death or injury to a research subject)?

_____ Yes

_____ No

If yes, please explain or provide contact details so that we may follow-up.

If you answered "yes" to C.2., C.3., and/or C.4., please send samples and copies of promotional materials, guidelines, or policies. Additional comments: